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NRO REVIEW COMPLETED

9 September 66

MEMORANDUM FOR THE RECORD

SUBJECT : ISINGLASS Briefing of Dr. Flax at McDonnell Aircraft Corporation

1. Dr. Flax, DNRO, was briefed on ISINGLASS at St. Louis on 7 September 66. Attendees were:

Dr. Alexander Flax	DNRO
[redacted]	NRO Staff
	MAC
	"
	"
	"
	"
	"
	"
	"
John Parangosky	P&W
[redacted]	Headquarters
	"

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2. During the discussions, the following emerged:

a. Dr. Flax agreed to work with us to establish generally acceptable ground rules for cost effectiveness and survivability studies. He agreed on the need for these, using CIA/DOD contractors with MAC support.

b. Although he appeared mildly concerned at the system orientation of the proposed R&D program, he readily agreed that a technology development should be supported. He was careful to point out that this would not imply a full-fledged program as a consequence. He did not specify a level of effort but stated that the technology should be brought along in step with the engine development. He also wants us to define carefully what we will have in hand at the end of such an effort.

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c. When questioned on timing of funding he pointed out that he owed EXCOM a report on ISINGLASS and said he would try to complete action within two or three weeks.

3. The briefing lasted from 1100 until 1530. After a short introduction by [redacted] covered the general 25X1
25X1 system description, [redacted] briefed on system cost effectiveness and survivability, and [redacted] covered the 25X1 technology. Following lunch, [redacted] briefly covered recent 25X1 engine developments, including the unique two position nozzle,
25X1 and [redacted] discussed manufacturing methods and conducted a short tour of the display items. The formal briefing ended with a short presentation on alternate applications.

4. Dr. Flax raised the following points:

a. He questioned whether the man added a great deal to system flexibility. He conceded that man was probably "the most reliable switching device available" and that his presence during the test program was desirable. It was pointed out that man could take advantage of the tactical flexibility of the system in maneuver, relight, throttling, etc., but Dr. Flax noted that reconnaissance missions are tightly programmed thus reducing the area of choice. He returned to this subject later when he questioned the relative nuclear vulnerability of the man and the vehicle, and again during the discussion at which time he stated that he would like to consider further the possibility of droning the device after a manned test program. He said he would like to consider a manned test program and then an operational vehicle specifically designed as a drone and possibly also a throw-away tank version with the front end droned. Regarding reliability, Dr. Flax was of the opinion that the man paid off primarily in the landing phase.

b. During the presentation on system cost effectiveness he said that the target yields used for orbital systems seemed low. It was pointed out that these numbers represented "new" targets, that is, ones that had not been seen previously during the year in question and did not include repeated looks. Although he agreed that this could explain the low numbers he was unsure how this ground rule affected the comparisons. It was generally

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agreed that the effectiveness studies would have to be conducted under ground rules that are acceptable to NRO, Hdqtrs., and MAC in order to be satisfactory and avoid this type of uncertainty. In addition, he pointed out that procurement and operational costs of orbital systems are well known and that a sensitivity analysis should be conducted varying ISINGLASS RDT&E, procurement, and operational costs. 25X1

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Advanced Projects Division
Special Activities

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25X1 APD/OSA [redacted] (9 Sept 66)

Distribution:

1 - APD/OSA
2 - DD/S&T
3 - D/R/CIA
4 - DD/SA
5 - D/R&D/OSA
6 - SS/OSA
7 - MARD/Compt/OSA
8 - CMD/Compt/OSA
9 - APD/OSA (Chrono)
10 - RB/OSA

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